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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/337,500
Filing Date: June 22, 1999
Appellant(s): YAMAGUCHI, TOMOHISA

Michael R. Cammarata
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed April 16, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1 and 11, 15 and 18 stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix, pages 1-9 to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,815,718	Tock	09/29/1998
5,838,910	Domenikos et al.	11/17/1998
6,247,050	Tso et al.	06/12/2001
6,161,147	Snyder et al.	12/12/2000
5,978,846	Kimishima	11/02/1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3, 5, 6, 11, 13, 15 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tock U.S. Patent No. 5,815,718, in view of Domenikos et al., (hereinafter Domenikos) U.S. Patent No. 5,838,910.

Referring to Claim 1, Tock discloses a system of dynamic module configuration which is linked through a network comprising: a memory, linked to the network, for memorizing a plurality of function executing modules which execute specific processes (Figure 1 Item 110 and col. 11 Lines 37-42); a request device, located on said network remotely from said memory (figure 1, client 102 located remotely from memory 110), which outputs an execution request for executing one of the specific processes (Figure 1 Item 102, col. 3 lines 52-55); and an execution device for receiving, through the network, the execution request output from the request device (abstract, col. 3 lines 46-49), acquiring, through the network, one of the plurality of function executing modules which has a function of realizing the execution request from the memory, executing the acquired function execution module (col. 5 lines 20-25) and providing a result of the execution of the function execution module to the request device (figures 1, 2, col. 1

lines 40-col. 2 lines 11 col. 3 lines 53-col. 4 lines 44). However, Tock does not explicitly teach an execution device located on said network remotely from said memory and said request device. Domenikos, in the same field of endeavor, teaches an execution device located on said network remotely from said memory and said request device (abstract, figures 1-4). It would have been obvious to one of ordinary skill the art at the time the invention was made to combine the teaching of Tock and Domenikos to have an execution device located on said network remotely from said memory and said request device because it would increase the speed of execution of application remotely and reduce the storing load on server.

Referring to Claim 3 and 13, Tock discloses a system of dynamic module configuration of claim 1, wherein the execution device stores the acquired function execution module after the acquired function execution module has been executed (col. 3, lines 14-17), and re-executes the acquired function execution module stored in the execution device when it is requested to execute a module having a function corresponding to the acquired function execution module. (Random access memory, as known in the art, is organized and controlled in a way that enables data to be stored and retrieved quickly by the computer's processor.)

Referring to Claim 5, Tock discloses a system of dynamic module configuration of claim 1, wherein the request device and the memory are installed in a device (Figure 1 Item 100 and Item 102).

Referring to Claim 6, Tock discloses a system of dynamic module configuration of claim 1, wherein the request device is a client which outputs a contents request

corresponding to the execution request (figure 1 item 102 and col. 3 lines, 52-55), the execution device is a server which receives the contents request and responds to the contents request (figure 1 item 104 and col. 4, lines 1-6), and the memory is a module storing server which stores the plurality of function executing modules for responding to the contents request (figure 1 item 128 and col. 11, lines 37-42).

Referring to Claim 11, Tock discloses a dynamic module configuration method using a network comprising the steps of: storing in a memory a plurality of function executing modules for executing specific processes (abstract, col. 11, lines 37-42); outputting, by a request device through the network, an execution request for executing one of the specific processes; and receiving, by an execution device, the execution request through the network, acquiring, through the network, one of the plurality of function executing modules from the memory which has a function of realizing the execution, executing the acquired function execution module and providing a result of the execution of the function execution module to the request device (abstract, figures 1, 2, col. 1 lines, 40-col. 2 lines ,11, col. 3 lines, 46-col. 4 lines, 65 and col. 5 lines, 20-25). However, Tock does not explicitly teach an execution device located on said network remotely from said memory and said request device. Domenikos, in the same field of endeavor, teaches an execution device located on said network remotely from said memory and said request device (abstract, figures 1-4). It would have been obvious to one of ordinary skill the art at the time the invention was made to combine the teaching of Tock and Domenikos to have an execution device located on said

network remotely from said memory and said request device because it would increase the speed of execution of application remotely and reduce the storing load on server.

Referring to Claim 15, Tock discloses a system of dynamic module configuration comprising: an internal resource of a device for performing an original function of the device (col. 11 lines, 37-42); and an execution device for receiving an execution request, through the network, which requests a performance of a function of the device, acquiring, from an external resource, one of a plurality of function execution modules which has a function of realizing the execution request, and executing the acquired function execution module, wherein the receiving, acquiring and executing are performed by using a part of the internal resource and wherein an executed result is obtained from executing the function execution module and the result is provided to the device (abstract, figures 1, 2, col. 2 lines, 53-57 and 65-67, col. 3 lines, 53-col. 4 lines, 65, col. 5 lines, 20-25). However, Tock does not explicitly teach the external resource is located remotely on said network from said execution device. Domenikos, in the same field of endeavor, teaches the external resource is located remotely on said network from said execution device (abstract, figures 1-4, col. 8, lines 20-24, lines 44-48). It would have been obvious to one of ordinary skill the art at the time the invention was made to combine the teaching of Tock and Domenikos to have the external resource is located remotely on said network from said execution device because it would increase the speed of execution of application remotely and reduce the storing load on server.

Referring to Claim 16, Tock discloses a system of dynamic module configuration of claim 15, wherein the internal resource includes a central processing unit and a

memory (Figure 1 Item 110 and 112), the execution device includes a program stored in the memory and executed by the central processing unit (Figure 1 Item 100), and the external resource includes a memory, being independent of the device, for memorizing the plurality of function execution modules (Figure 1 Item 108).

Referring to claim 17, Tock does not explicitly teach the external resource is located remotely on said network from said execution device. However, Domenikos, in the same field of endeavor, teaches the external resource is located remotely on said network from said execution device (abstract, figures 1-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Tock and Domenikos to have the external resource is located remotely from said execution device because it would have an efficient communications system that can increase the speed of execution of application remotely and reduce the storing load on server.

Referring to claim 18, Tock teaches the invention substantially as claimed, including a method of providing execution module instructions to plural of operation devices on a network, comprising the steps of: storing plural diverse execution modules in a memory, each of said execution modules containing a set of instructions usable by an operational device (abstract, figures 1-2, col. 11 lines, 37-42); requesting an action by a request device to be performed by a selected operational device which is achieved through a set of instructions contained in a requested execution module (Figure 1 Item 102, col. 3 lines, 52-55); acquiring said requested execution module by said selected operational device from said memory, said operational device executing said set of

instructions contained in said requested execution module to perform the requested action (figures 1, 2, col. 1 lines, 40-col. 2 lines, 11 col. 3 lines, 46-col. 4 lines, 44, col. 5 lines, 20-25). However, Tock does not explicitly teach an operation device is located on said network remotely from said memory and the request device is remotely located on the network from said plural operational devices and said memory. Domenikos, in the same field of endeavor, teaches an operational device is located on said network remotely from said memory, and the request device is remotely located on the network from said plural operational devices and said memory (abstract, figures 1-4, col. 8, lines, 20-24, lines, 44-48). It would have been obvious to one of ordinary skill the art at the time the invention was made to combine the teaching of Tock and Domenikos to have an operational device is located on said network remotely from said memory and said request device because it would increase the speed of execution of application remotely and reduce the storing load on server.

Referring to claim 19, Tock does not explicitly teach the invention as claimed; however, Domenikos, in the same field of endeavor, teaches the request device is remotely located on the network from said plural operational devices and said memory (abstract, figures 1-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Tock and Domenikos to have the request device is remotely located on the network from said plural operational devices and said memory because it would have an efficient communications system that can increase the speed of execution of application remotely and reduce the storing load on server.

Referring to claim 20, Tock discloses the invention substantially as claimed, wherein the operational device includes an execution device for executing the requested execution module acquired from said memory (abstract, figures 1, 2, col. 1 lines, 40-col. 2 lines, 11 col. 3 lines, 46-col. 4 lines, 44, col. 5 lines, 20-25).

Claim 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tock and Domenikos, and further in view of Snyder et al. U.S. Patent No. 6,161,147.

Referring to Claim 2 and 12, Tock and Domenikos disclose a system of dynamic module configuration of claim 1. However, Tock and Domenikos do not disclose wherein the execution device deletes the acquired function execution module after the acquired function execution module has been executed. Snyder et al. teaches a variety of methods for managing deactivation and deletion of objects and server processes. Further, Snyder discloses a timeout criterion where the deletion or an object or processes takes place if the period of time since the last client requested services from the object is greater than a timeout value (Abstract, figures 6, col. 2 lines, 15-col. 3 lines, 7). The timeout criterion and deletion of the acquired function module, as known in the art, both releases memory and resources thereby improving efficiency and performance of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic module configuration system as disclosed by Tock and Domenikos to delete the function execution module after execution in order to release resources and improve the efficiency and performance of the system.

Claim 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tock and Domenikos, and further in view of Tso et al. U.S. Patent 6,247,050.

Referring to Claim 4 and 14, Tock and Domenikos disclose a system of dynamic module configuration of claim 1. However, Tock and Domenikos do not disclose wherein the memory caches the function execution module acquired by the execution device and provides the function execution module cached in the memory when it is requested to acquire a module, which has a function corresponding to the function execution module cached in the memory, by the execution module. Tso et al. teaches that a server-side cache memory may be used to store both original and transcoded versions of content for later transmission to network client without the need to re-retrieve the content from Internet or to re-transcode the content (abstract, figures 3, 6, col. 4 lines, 30-col. 5 lines, 7). Since the function execution module, as known in the art, is a program or a function, it can also be stored for later transmission to the network client. Memory caching provides more effective and efficient client-server communication because most programs access the same data or functions repeatedly. By keeping as much of this information as possible in static memory, the computer can avoid accessing the slower dynamic memory. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of dynamic module configuration to cache the function execution module because memory caching provides more effective and efficient client-server communication.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tock and Domenikos, and further in view of Kimishima U.S. Patent 5,978,846.

Referring to Claim 7, Tock and Domenikos disclose a system of dynamic module configuration of claim 6 wherein the server includes a communication interface (Figure 1 Item 116), a user interface (Figure 1 Item 114) and a processor (Figure 1 Item 112, Processor read as contents-analyzing module and module-executing module). However, Tock and Domenikos do not disclose a system of dynamic module configuration wherein the server is further composed of a contents-request receiving module and module-requesting module. Kimishima discloses a system wherein the communications interface module specifically includes a contents-request receiving module for receiving the contents request from the client (Figure 1 Item 403, Figure 8 Item S401), a module requesting module for requesting a selected function executing module from the module storing server based on an analyzing result by the contents-request analyzing module (col. 2 lines 45-49), and for receiving the selected function executing module from the module storing, and a module executing module for executing the selected function executing module received by the module requesting module (col. 6 lines, 37-41, Figure 1 item 402). Tock fails to mention a contents-request analyzing module for analyzing the contents request received by the contents-request receiving module in order to select one of the plurality of function executing modules which has a function needed in responding to the contents request. However, a Java Virtual Machine is deemed to be inherited through the processing of a Java application disclosed by Tock. Java Virtual Machine's main job, as well known in the art, is to

interpret, analyze and load the needed class files and execute the bytecodes they contain. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further separate the communications interface into a contents-request receiving module and module requesting module so that both modules can work simultaneously thereby allowing quicker and more efficient processing of information.

Referring to Claim 8, Tock and Domenikos disclose a system of dynamic module configuration of claim 7. However Tock and Domenikos do not disclose a system of dynamic module where in the module storing server is composed of a plurality of modules including the module-request receiving module, module acquiring module, and a module transmitting module. Kimishima discloses a system wherein the module storing server includes a module-request receiving module for receiving a module request from the module requesting module (Figure 1 Item 405), a module acquiring module for acquiring a function executing module out of the plurality of function executing modules based on the module request received by the module-request receiving module (col. 2 lines, 45-49), and a module transmitting module for transmitting the function executing module acquired by the module acquiring module to the server (Figure 1 Item 402). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further decompose the module storing server as disclosed by Tock and Domenikos to include a plurality of modules disclosed by Kimishima so that modules can work simultaneously thereby allowing quicker and more efficient processing of information.

Referring to Claim 9, Tock discloses a system of dynamic module configuration of claim 7, wherein the server further includes a module storing module for storing the selected function executing module acquired from the module storing server as many as possible in a resource of the server (col. 3 lines, 14-17).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tock and Domenikos as applied to claim 8 above, and further in view of Kimishima and Tso et al.

Referring to Claim 10, Tock and Domenikos disclose a system of dynamic module configuration of claim 8. However, Tock and Domenikos do not disclose wherein the module-storing server further includes a module-caching module for caching the selected function-executing module after the selected function-executing module has been sent to the server. Tso et al. teaches that a server-side cache memory may be used to store both original and transcoded versions of content for later transmission to network client without the need to re-retrieve the content from Internet or to re-transcode the content (abstract, figure 1, col. 2 lines 17-col. 4 lines 36). Since the function execution module, as known in the art, is a program or a function, it can also be stored for later transmission to the network client. Memory caching provides more effective and efficient client-server communication because most programs access the same data or functions repeatedly. By keeping as much of this information as possible in static memory, the computer can avoid accessing the slower dynamic memory. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the module-storing server to include a module-

caching module because memory caching provides more effective and efficient client-server communication.

(11) Response to Argument

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Tock suggests a system of a request device (i.e. client computer 102) located remotely from an execution device (i.e. server 108) and the execution device having memory to modify the system of request device and execution device located an execution device located on network remotely from said memory by Domenikos (abstract, figures 1-4, col. 8, lines 20-24, lines 44-48). One of ordinary skill in the art would have been motivated to modify Tock in view of Domenikos because it would increase the speed of execution of application remotely and reduce the storing load on server as suggested by Domenikos (col. 2, lines 50-60, col. 5, lines 48-64).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Tock fails to disclose " a request device, located on said network remotely from said memory and execution device". In response to Applicant's argument, Patent Office asserts that applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. Moreover, Patent Office admitted that Tock does not explicitly teach said memory located on said network remotely from request device and execution device; however, Domenikos, in the same field of endeavor, does disclose memory located on said network remotely from request device and execution device (i.e. server) (figures 1-4, col. 8, lines 20-24, lines 44-48).

Applicant argues that neither Tock nor Domenikos combination teach an internal resource of a device...wherein the receiving, acquiring and executing are performed by using a part of the internal resource. In response to Applicant's argument, Patent Office asserts that Tock does disclose an internal resource of a device (i.e. source code files, class files, applet) and wherein the receiving, acquiring and executing are performed by using a part of the internal resource (abstract, figures 1, 2, col. 2 lines 53-57 and 65-67, col. 3 lines 53-col. 4 lines 65, col. 5 lines 20-25, col. 11, lines 37-55).

Applicant argues that Tock and Domenikos combination does not teach operational device...performed by selected operational device...acquiring said request execution module by said selected operational device. In response to Applicant's argument, Patent Office asserts that Tock does teach operational device...performed by

selected operational device...acquiring said request execution module by said selected operational device (see figures 1-2 col. 1 lines 40-col. 2 lines 11 col. 3 lines 46-col. 4 lines 44, col. 5 lines 20-25, col. 11 lines, 37-42).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

THN
ThuHa Nguyen

Conferee

ZARNI MAUNG
PRIMARY EXAMINER

Patrice Winder
PATRICE WINDER
PRIMARY EXAMINER